STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION

MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No.:	**MO-0134007**
Owner:	Gasconade RV Park Homeowners' Association
Owner's Address:	364 Cherry Tree Lane, Cuba, Mo 65453
Continuing Authority:	Gasconade RV Park Homeowners' Association
Continuing Authority's Address:	364 Cherry Tree Lane, Cuba, Mo 65453
Facility Name:	Gasconade Get Away RV Park WWTF
Facility Address:	Old Hwy 63, Vienna, MO 65582
Legal Description:	NW ¼, NW ¼, Sec. 1, T39N, R9W, Maries County
UTM Coordinates:	X=599144, Y=4223600
Receiving Stream:	Tributary to Gasconade River (U)
First Classified Stream and ID:	Gasconade River (P) (303 (d))– 01455
USGS Basin & Sub-watershed No.:	10290203 - 0206

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 – Campground – SIC # 4952 / # 7033
Septic Tank Effluent Pump (STEP) System/Recirculation Tank/Recirculating Sand Filter/Ultraviolet (UV) disinfection.
Sludge disposal by contract hauler.
Design population equivalent (PE): 192
Design flow: 5,760 gallons per day (gpd)
Design sludge production: 0.2 dry tons/year

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

October 1, 2014
Effective Date

Sara Parker Pauley, Director, Department of Natural Resources

March 31, 2019
Expiration Date

John Madras, Director, Water Protection Program

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:

OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
Outfall #001						
Flow	MGD	*		*	once/quarter***	24 hr. estimate
Biochemical Oxygen Demand$_5$	mg/L		45	30	once/quarter***	grab
Total Suspended Solids	mg/L		45	30	once/quarter***	grab
pH – Units	SU	**		**	once/quarter***	grab
E. coIi (Note 1)	#/100 mL	630		126	once/quarter***	grab
Ammonia as N	mg/L	*		*	once/quarter***	grab

MONITORING REPORTS SHALL BE SUBMITTED Quarterly; THE FIRST REPORT IS DUE January 28, 2015 . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.

B. STANDARD CONDITIONS

IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED Parts I & III STANDARD CONDITIONS DATED October 1, 1980 and August 15, 1994, AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

* Monitor and report.
** pH is measured in pH units and is not to be averaged. The pH is limited to the range of 6.5-9.0 pH units.
*** See table below for quarterly sampling:

Sample discharge at least once for the months of:	Report is due:
January, February, March (1st Quarter)	April 28
April, May, June (2nd Quarter)	July 28
July, August, September (3rd Quarter)	October 28
October, November, December (4th Quarter)	January 28

Note 1 - Effluent limitations and monitoring requirements for *E. coli* are applicable only during the recreational season from April 1 through October 31. The Monthly Average Limit for *E. coli* is expressed as a geometric mean.

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:

   (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
   (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
   (2) controls any pollutant not limited in the permit.

   (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.

   (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.

3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.

4. Changes in Discharges of Toxic Substances

   The permittee shall notify the Director as soon as it knows or has reason to believe:

   (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
   (1) One hundred micrograms per liter (100 µg/L);
   (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
   (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
   (4) The level established in Part A of the permit by the Director.

   (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

5. Report as no-discharge when a discharge does not occur during the report period.

6. General Criteria. The following water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:

   (a) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;

   (b) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;

   (c) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;

   (d) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;

C. SPECIAL CONDITIONS (continued)

(e) There shall be no significant human health hazard from incidental contact with the water;

(f) There shall be no acute toxicity to livestock or wildlife watering;

(g) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;

(h) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.

7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities

(a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.

(b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.

Missouri Department of Natural Resources
Statement of Basis
For New Permit
#MO-0134007
Gasconade Get Away RV Park WWTF

This Statement of Basis gives pertinent information regarding minor/simple modification(s) to the above listed operating permit for a public comment process.

A Statement of Basis is not an enforceable part of a Missouri State Operating Permit.

Part I – Facility Information

Facility Type: NON-POTW – Campground – SIC # 4952 / # 7033

Facility Description:

Wastewater treatment facility with 5,760 gals. per day design flow rate consisting of: ten (10) ea. 1,500 gal. sewage tank effluent pump systems; two (2) ea. 3,000 gal. recirculating tanks; 50' x 24' x 2-1/2' (1,200 ft^2), one (1) cell, four (4) zone recirculating sand filter; ultraviolet disinfection unit. Sludge disposal by contract hauler.

Comments:
The facility has not been in enforcement. Facility remained unpermitted since 2007 and continued to operate as if permitted. Homeowners Association has organized and is recognized by the Secretary of State Office as the continuing authority for the facility.

OUTFALL(S) TABLE:

OUTFALL	DESIGN FLOW (CFS)	TREATMENT LEVEL	EFFLUENT TYPE
#001	0.0089	Secondary	Domestic

Part II – Receiving Stream Information

10 CSR 20-7.031 Missouri Water Quality Standards, the Department defines the Clean Water Commission water quality objectives in terms of "water uses to be maintained and the criteria to protect those uses." The receiving stream and/or 1st classified receiving stream's beneficial water uses to be maintained, are located in the Receiving Stream Table located below in accordance with [10 CSR 20-7.031(4)].

RECEIVING STREAM(S) TABLE: OUTFALL #001

WATER-BODY NAME	CLASS	WBID	DESIGNATED USES*	12-DIGIT HUC	DISTANCE TO CLASSIFIED SEGMENT (MI)
Tributary to Gasconade River	U	-	General Criteria	10290203-0208	0.4
Gasconade River	P	01455	CLF, DWS, LWW, SCR, WBC A		

* - Irrigation (IRR), Livestock & Wildlife Watering (LWW), Protection of Warm Water Aquatic Life and Human Health-Fish Consumption (AQL), Cool Water Fishery(CLF), Cold Water Fishery (CDF), Whole Body Contact Recreation (WBC), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Industrial (IND), Groundwater (GRW).

RECEIVING STREAM(S) LOW-FLOW VALUES:

RECEIVING STREAM U)	LOW-FLOW VALUES (CFS)		
	1Q10	7Q10	30Q10
Trib to Gasconade River	0.0	0.0	0.0

Part III – Effluent Limits Determination (Outfall #001)

OUTFALL #001 – MAIN FACILITY OUTFALL

EFFLUENT LIMITATIONS TABLE:

PARAMETER	Unit	Basis for Limits	Daily Maximum	Weekly Average	Monthly Average
Flow	MGD	1	*		*
BOD_5	mg/L	1		45	30
TSS	mg/L	1		45	30
pH	SU	1, 2	6.5 – 9.0		
Ammonia as N	mg/L	2, 3	*		*
Escherichia coli	***	1, 3	630		126
Acute Whole Effluent Toxicity	TUa	1, 11	NA	NA	NA

*** - Monitoring requirement only.**

** - For DO the Daily Maximum is a Daily Minimum and the Monthly Average is a Monthly Average Minimum.

*** - MPN/100mL; the Monthly Average for *E. coli* is a geometric mean.

**** - Parameter not previously established in previous state operating permit.

Basis for Limitations Codes:

1. State or Federal Regulation/Law
2. Water Quality Standard (includes RPA)
3. Water Quality Based Effluent Limits
4. Lagoon Policy
5. Ammonia Policy
7. Antidegradation Policy
8. Water Quality Model
9. Best Professional Judgment
10. TMDL or Permit in lieu of TMDL
11. WET Test Policy

OUTFALL #001 – DERIVATION AND DISCUSSION OF LIMITS:

- **Flow**. In accordance with [40 CFR Part 122.44(i)(1)(ii)] the volume of effluent discharged from each outfall is needed to assure compliance with permitted effluent limitations. If the permittee is unable to obtain effluent flow, then it is the responsibility of the permittee to inform the Department, which may require the submittal of an operating permit modification.

- **Biochemical Oxygen Demand (BOD_5).**

  ☒ - 45 mg/L Weekly Average and 30mg/L Monthly Average effluent limitations, as per [10 CSR 20-7.015].

- **Total Suspended Solids (TSS).**

  ☒ - 45 mg/L Weekly Average and 30 mg/L Monthly Average effluent limitations, as per [10 CSR 20-7.015].

- **pH**. – 6.5-9.0 SU. Technology based effluent limitations of 6.0-9.0 SU [10 CSR 20-7.015] are not protective of the Water Quality Standard, which states that water contaminants shall not cause pH to be outside the range of 6.5-9.0 SU.

- **Total Ammonia Nitrogen**. Early Life Stages Present Total Ammonia Nitrogen criteria apply [10 CSR 20-7.031(5)(B)7.C. & Table B3] default pH 7.8 SU. Background total ammonia nitrogen = 0.01 mg/L (Default).

  Staff has applied monitoring only to determine the need for limitation. Monitoring only was applied in the 2006 public notice of the permit. The limits below are provided to supply the permittee with probably limitations in the event of the department determines reasonable potential to exceed water quality standards.

Season	Temp (^oC)	pH (SU)	Total Ammonia Nitrogen CCC (mg/L)	Total Ammonia Nitrogen CMC (mg/L)
Summer	26	7.8	1.5	12.1
Winter	6	7.8	3.1	12.1

  Summer: April 1 – September 30
  Chronic WLA: $C_e = ((0.0089 + 0.0)1.5 – (0.0 * 0.01))/0.0089$
  $C_e = 1.5$ mg/L

  Acute WLA: $C_e = ((0.0089 + 0.0)12.1 – (0.0 * 0.01))/0.0089$
  $C_e = 12.1$ mg/L

  $LTA_c = 1.5$ mg/L (0.780) = 1.17 mg/L [CV = 0.6, 99th Percentile, 30 day avg.]
  $LTA_a = 12.1$ mg/L (0.321) = 3.89 mg/L [CV = 0.6, 99th Percentile]

  Use most protective number of LTA_c or LTA_a.

  MDL = 1.17 mg/L (3.11) = 3.6 mg/L [CV = 0.6, 99th Percentile]
  AML = 1.17 mg/L (1.19) = 1.4 mg/L [CV = 0.6, 95th Percentile, n =30]

  Winter: October 1 – March 31
  Chronic WLA: $C_e = ((0.0089 + 0.0)3.1 – (0.0 * 0.01))/0.0089$
  $C_e = 3.1$ mg/L

  Acute WLA: $C_e = ((0.0089 + 0.0)12.1 – (0.0 * 0.01))/0.0089$
  $C_e = 12.1$ mg/L

  $LTA_c = 3.1$ mg/L (0.780) = 2.42 mg/L [CV = 0.6, 99th Percentile, 30 day avg.]
  $LTA_a = 12.1$ mg/L (0.321) = 3.89 mg/L [CV = 0.6, 99th Percentile]

  Use most protective number of LTA_c or LTA_a.

  MDL = 2.42 mg/L (3.11) = 7.5 mg/L [CV = 0.6, 99th Percentile]
  AML = 2.42 mg/L (1.19) = 2.9 mg/L [CV = 0.6, 95th Percentile, n =30]

- ***Escherichia coli (E. coli)***. Monthly average of 126 per 100 mL as a geometric mean and Weekly Average of 630 per 100 mL as a geometric mean during the recreational season (April 1 – October 31), to protect Whole Body Contact Recreation (A) designated use of the receiving stream, as per 10 CSR 20-7.031(5)(C). An effluent limit for both monthly average and weekly average is required by 40 CFR 122.45(d).

Part IV – Antidegradation Review

ANTIDEGRADATION:
In accordance with Missouri's Water Quality Standard [10 CSR 20-7.031(2)], the Department is to document by means of Antidegradation Review that the use of a water body's available assimilative capacity is justified. Degradation is justified by documenting the socio-economic importance of a discharging activity after determining the necessity of the discharge.

☒ - Facility operating and construction permits were public noticed prior to the advent of antidegradation in 2008 and is currently discharging. These two facts make it a candidate for permitting without an antidegradation review. No degradation proposed and no further review necessary. Facility did not apply for authorization to increase pollutant loading or to add additional pollutants to their discharge.

Part V – 2013 Water Quality Criteria for Ammonia

Upcoming changes to the Water Quality Standard for ammonia may require significant upgrades to wastewater treatment facilities.

On August 22, 2013, the U.S. Environmental Protection Agency (EPA) finalized new water quality criteria for ammonia, based on toxicity studies of mussels and gill breathing snails. Missouri's current ammonia criteria are based on toxicity testing of several species, but did not include data from mussels or gill breathing snails. Missouri is home to 69 of North America's mussel species, which are spread across the state. According to the Missouri Department of Conservation nearly two-thirds of the mussel species in Missouri are considered to be "of conservation concern". Nine species are listed as federally endangered, with an additional species currently proposed as endangered and another species proposed as threatened.

The adult forms of mussels that are seen in rivers, lakes, and streams are sensitive to pollutants because they are sedentary filter feeders. They vacuum up many pollutants with the food they bring in and cannot escape to new habitats, so they can accumulate toxins in their bodies and die. But very young mussels, called glochidia, are exceptionally sensitive to ammonia in water. As a result of a citizen suit, the EPA was compelled to conduct toxicity testing and develop ammonia water quality criteria that would be protective if young mussels may be present in a waterbody. These new criteria will apply to any discharge with ammonia levels that may pose a reasonable potential to violate the standards. Nearly all discharging domestic wastewater treatment facilities (cities, subdivisions, mobile home parks, etc.), as well as certain industrial and stormwater dischargers with ammonia in their effluent, will be affected by this change in the regulations.

When new water quality criteria are established by the EPA, states must adopt them into their regulations in order to keep their authorization to issue permits under the National Pollutant Discharge Elimination System (NPDES). States are required to review their water quality standards every three years, and if new criteria have been developed they must be adopted. States may be more protective than the Federal requirements, but not less protective. Missouri does not have the resources to conduct the studies necessary for developing new water quality standards, and therefore our standards mirror those developed by the EPA; however, we will utilize any available flexibility based on actual species of mussels that are native to Missouri and their sensitivity to ammonia.

Many treatment facilities in Missouri are currently scheduled to be upgraded to comply with the current water quality standards. But these new ammonia standards may require a different treatment technology than the one being considered by the permittee. It is important that permittees discuss any new and upcoming requirements with their consulting engineers to ensure that their treatment systems are capable of complying with the new requirements. The Department encourages permittees to construct treatment technologies that can attain effluent quality that supports the EPA ammonia criteria.

Ammonia toxicity varies by temperature and by pH of the water. Assuming a stable pH value, but taking into account winter and summer temperatures in Missouri include two seasons of ammonia effluent limitations. Current effluent limitations in this permit are:

Summer – 3.6 mg/L daily maximum, 1.4 mg/L monthly average.
Winter – 7.5 mg/L daily maximum, 2.9 mg/L monthly average.

Under the new EPA criteria, where mussels of the family Unionidae are present or expected to be present, the estimated effluent limitations for a facility in a location such as this that discharges to a receiving stream with no mixing consideration listed in Part II of the Statement of Basis will be:

Summer – 1.7 mg/L daily maximum, 0.6 mg/L monthly average.
Winter – 5.6 mg/L daily maximum, 2.1 mg/L monthly average.
Actual effluent limits will depend in part on the actual performance of the facility.

Operating permits for facilities in Missouri must be written based on current statutes and regulations. Therefore permits will be written with the existing effluent limitations until the new standards are adopted. To aid permittees in decision making, an advisory will be added to permit Fact Sheets notifying permittees of the expected effluent limitations for ammonia. When setting schedules of compliance for ammonia effluent limitations, consideration will be given to facilities that have recently constructed upgraded facilities to meet the current ammonia limitations.
For more information on this topic feel free to contact the Missouri Department of Natural Resources, Water Protection Program, Water Pollution Control Branch, Operating Permits Section at (573) 751-1300.

Part VI – Administrative Requirements

On the basis of preliminary staff review and the application of applicable standards and regulations, the Department, as administrative agent for the Missouri Clean Water Commission, proposes to issue a permit(s) subject to certain effluent limitations, schedules, and special conditions contained herein and within the operating permit. The proposed determinations are tentative pending public comment.

PERMIT SYNCHRONIZATION:
The Department of Natural Resources is currently undergoing a synchronization process for operating permits. Permits are normally issued on a five-year term, but to achieve synchronization many permits will need to be issued for less than the full five years allowed by regulation. The intent is that all permits within a watershed will move through the Watershed Based Management (WBM) cycle together will all expire in the same fiscal year. This will allow further streamlining by placing multiple permits within a smaller geographic area on public notice simultaneously, thereby reducing repeated administrative efforts. This will also allow the Department to explore a watershed based permitting effort at some point in the future. Renewal applications must continue to be submitted within 180 days of expiration, however, in instances where effluent data from the previous renewal is less than 4 years old, that data may be re-submitted to meet the requirements of the renewal application. If the permit provides a schedule of compliance for meeting new water quality based effluent limits beyond the expiration date of the permit, the time remaining in the schedule of compliance will be allotted in the renewed permit.

PUBLIC NOTICE:
The Department shall give public notice that a draft permit has been prepared and its issuance is pending. Additionally, public notice will be issued if a public hearing is to be held because of a significant degree of interest in and water quality concerns related to a draft permit. No public notice is required when a request for a permit modification or termination is denied; however, the requester and permittee must be notified of the denial in writing.

The Department must issue public notice of a pending operating permit or of a new or reissued statewide general permit. The public comment period is the length of time not less than 30 days following the date of the public notice which interested persons may submit written comments about the proposed permit.

For persons wanting to submit comments regarding this proposed operating permit, then please refer to the Public Notice page located at the front of this draft operating permit. The Public Notice page gives direction on how and where to submit appropriate comments.

The Public Notice period for this operating permit was from August 24, 2007, to September 23, 2007. No responses received.

Date of Basis: 8/22/14

Completed by:
Bruce Volner, Environmental Engineer
Southeast Regional Office

Finalized by:
Todd Blanc, Environmental Specialist
Engineering Section
(314)416-2064
Blanc.Todd@dnr.mo.gov